Animals, Including Humans Knowledge Planner: Is the heart the most important muscle?

What should I already know?

The basic needs of animals for survival (water, food and air)
The importance of exercise, hygiene and a balanced diet
Animals get nutrition from what they eat
Some animals have skeletons for support, protection and movement
The basic parts of the digestive system

Being a Scientist

To work scientifically, we must ensure we carry out fair tests.
We will:

- Identify variables
- Know which variables to control to create a fair test
- Make decisions about what and how to observe, and how to record observations

To work scientifically, we must recognise which sources are reliable for research.
We will:

- Choose sources carefully and separate opinion from facts
- Recognise which secondary sources are most useful to our research and ideas.

What will I investigate?

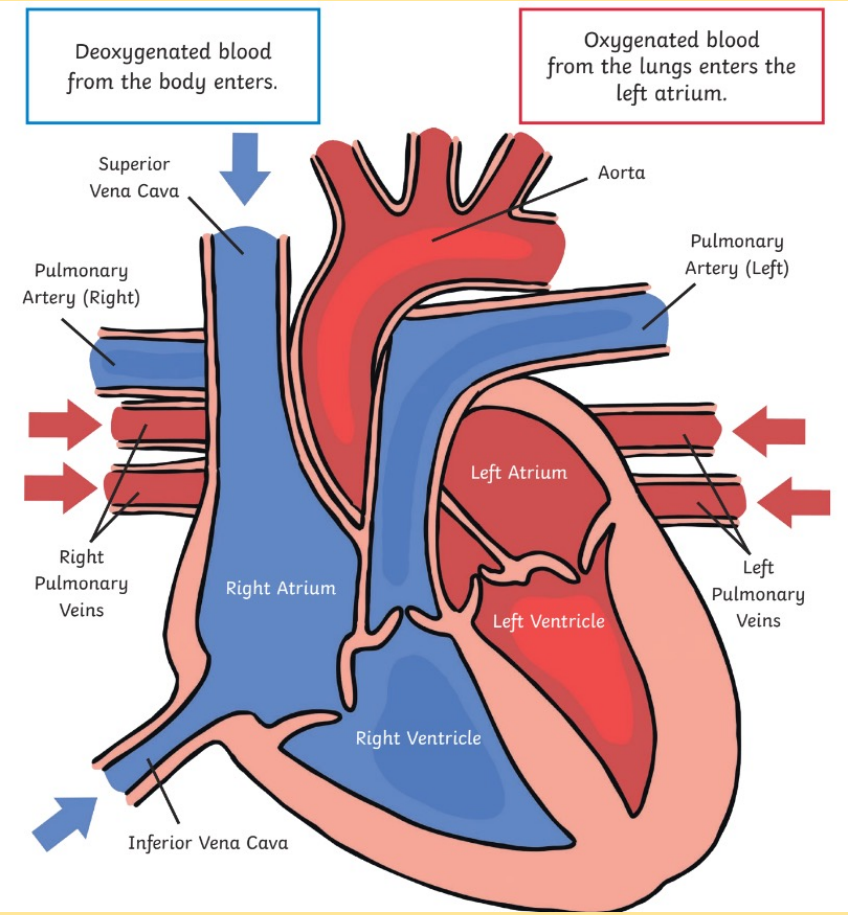
How does exercise affect heart rate?
What forms of exercise have the biggest impact on heart rate?

Key Vocabulary

Aorta	The main artery through which blood leaves your heart before it flows through the rest of your body.
Artery	Blood vessels in your body that carry oxygenated blood from your heart to the rest of the body.
Atrium	The top two chambers of your heart
Blood Vessel	Tubes through which your blood flows - arteries, veins and capillaries.
Capillaries	The smallest blood vessels in your body.
Carbon dioxide	A waste gas produced by humans and animals which is breathed out.
Deoxygenated	Blood without oxygen.
Heart	The organ in your chest that pumps blood around your body; it is made of four chambers.
Lungs	They are two organs inside your chest which fill with air when you breathe in. They oxygenate the blood and remove carbon dioxide from it.
Muscle	Substances that help plants and animals grow.
Nutrients	Substances that help plants and animals grow.
Organ	A part of your body that has a particular purpose.
Oxygen	A colourless gas that plants and animals need to survive.
Oxygenated	Blood that contains oxygen.
Pulmonary	Related to the lungs
Respiration	The process of breathing.
Vein	Blood vessels in your body that carries deoxygenated blood to your heart from your body.
Vena Cava	The vein which enters the heart, returning deoxygenated blood from the body.
Ventricle	The bottom two chambers of your heart.

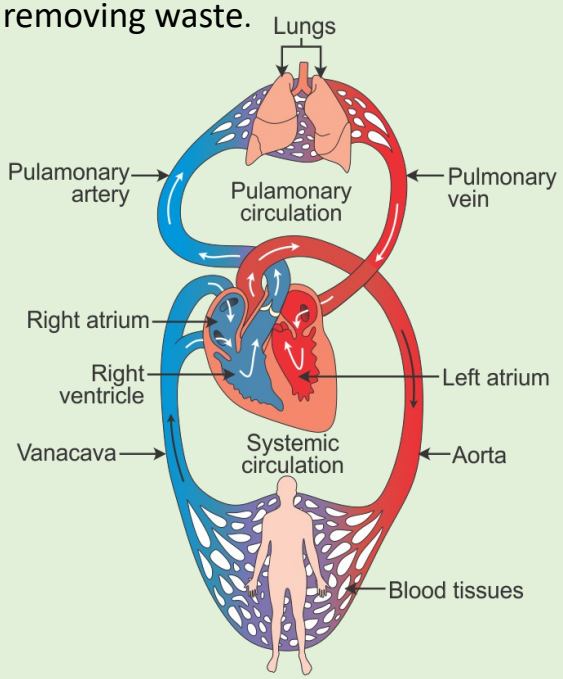
The Heart

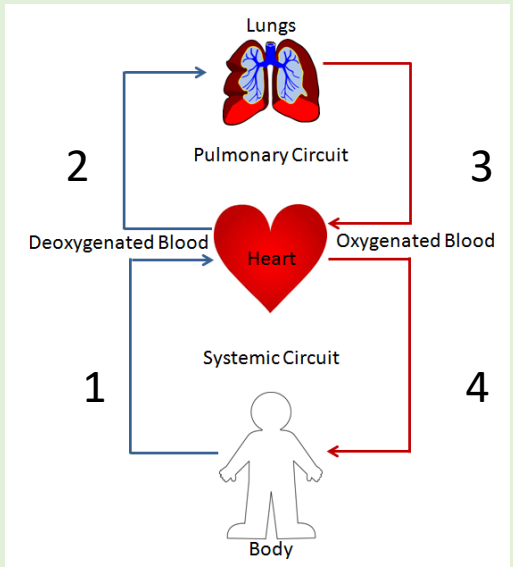
The heart is one of your vital organs. It controls the blood flow to your body. It is made of four chambers: right and left ventricle and right and left atrium.



The Circulatory System

The way blood moves around the body, carrying oxygen and nutrients to organs and muscles and removing waste.





1. Deoxygenated blood is sent to the heart from the rest of the body.
2. This is then sent from the heart to the lungs. Here, the blood picks up oxygen and disposes of carbon dioxide.
3. Oxygenated blood is then sent back to the heart.
4. The heart sends the oxygenated blood back to the rest of the body.

Staying Healthy

Choices that can harm the circulatory system.

- Some choices, such as smoking and drinking alcohol can be harmful to our health.
- Tobacco can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death.
- Alcohol can cause short-term effects such as addiction and loss of control and long-term effects such as organ damage, cancer and death.

Why is exercise so important?

Exercise can:

- Tone our muscles and reduce fat.
- Increase fitness
- Make you feel physically and mentally healthier
- Strengthens the heart
- Improves lung function
- Improves skin.